

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Philip Louis Taylor

Serial No: Continuation of 09/232,110

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No. EL 709 416 591 US

Filed: April 26, 2001

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For: AQUEOUS COATING COMPOSITION GIVING COATINGS HAVING AN
IMPROVED EARLY HARDNESS AND TACK-RESISTANCE

BOX PATENT APPLICATION
Assistant Commissioner of Patents
Washington, D.C. 20231

PRELIMINARY AMENDMENT

Sir:

Prior to examination, please amend the application as follows.

In the Specification

On page 1, after the title, please insert the following paragraph:

--This application is a continuation of U.S.S.N. 09/232,110 filed January 15, 1999,
which is a continuation of U.S.S.N. 08/776,264 filed March 24, 1997, which is a 371 of
International Application No. PCT/EP95/02821 filed July 14, 1995, which claims priority to
foreign application No. 9414922.6 filed July 25, 1994 in the United Kingdom.--

In the Claims

1. (Amended) An aqueous, film-forming coating composition [which comprises]

comprising

[a) water

b) in the case of a paint, pigment and

c) particles of polyester dispersed in the water which polyester contains repeating hydroxyalkanoate units and wherein] a polyhydroxyalkanoate polyester, wherein the composition forms a water-resistant film at ambient temperatures and at least 60 wt% of the polyester particles have a density of less than 102% of D_{\min} , D_{\min} being the lowest density attainable by the polyester.

Please cancel claims 2-10.

Please add new claims 11-26.

11. The composition of claim 1 wherein the polyhydroxyalkanoate polyester forms particles which fuse at ambient temperatures.

12. The composition of claim 1 wherein the polyhydroxyalkanoate polyester comprises a copolymer of between 60 and 100 mole% 3-hydroxybutyrate and between 0 and 40 mole% 3-hydroxyvalerate.

13. The composition of claim 1 further comprising other film-forming polymers.

14. The composition of claim 13 wherein the film-forming polymers are obtained from monomers obtained from petroleum or vegetable oil feedstocks and which are present in an amount of up to 95 wt% of the combined weights of the film-forming polymer and the hydroxyalkanoate polyester.

15. The composition of claim 1 wherein the polyhydroxyalkanoate polyesters comprise monomers with high minimum film-forming temperatures and monomers with low minimum film-forming temperatures.

16. The composition of claim 15 wherein the high film-forming temperature monomers are selected from the group consisting of carboxylic acids, non-acidic monomers, fumaric anhydrides, and maleic anhydrides.

17. The composition of claim 15 wherein the low film-forming temperature monomers are selected from the group consisting of ethyl acrylate, 2-ethyl acrylate, methyl acrylate, butyl acrylate, and vinyl esters of branched chain acids.

18. The composition of claim 1 further comprising a pigment.

19. A method of coating a structure comprising applying an aqueous film-forming coating composition comprising a polyhydroxyalkanoate polyester, wherein the composition forms a water-resistant film at ambient temperatures and at least 60% of the polyester particles have a density of less than 102% D_{\min} , D_{\min} being the lowest density attainable by the polyester.

20. The method of claim 19 wherein the polyhydroxyalkanoate polyester forms particles which fuse at ambient temperatures.

21. The method of claim 19 wherein the polyhydroxyalkanoate polyester comprises a copolymer of between 60 and 100 mole% 3-hydroxybutyrate and between 0 and 40 mole% 3-hydroxyvalerate.

22. The method of claim 19 wherein the polyesters comprise monomers with high

minimum film-forming temperatures and monomers with low minimum film-forming temperatures.

23. The method of claim 22 wherein the high film-forming temperature monomers are selected from the group consisting of carboxylic acids, non-acidic monomers, fumaric anhydrides, and maleic anhydrides.

24. The method of claim 22 wherein the low film-forming temperature monomers are selected from the group consisting of ethyl acrylate, 2-ethyl acrylate, methyl acrylate, butyl acrylate, and vinyl esters of branched chain acids.

25. The method of claim 19 wherein the composition further comprises film-forming polymers comprising monomers obtained from petroleum or vegetable oil feedstocks and which are present in an amount of up to 95 wt% of the combined weights of the film-forming polymer and the hydroxyalkanoate polyester, and the composition is applied as a paint or varnish.

26. The method of claim 25 wherein the coating is applied to surfaces found on buildings or vehicles, their fittings or furnishings, or on metal or plastics containers.

Remarks

Claim 1 was amended, claims 2-10 were cancelled, and new claims 11-26 added. The claims as pending upon entry of the Preliminary Amendment are attached hereto as an Appendix. Claim 1 was amended, claims 2-10 were cancelled, and new claims 11-26 added.

Claim 1 has been amended to more specifically recite that composition is an aqueous composition containing a polyhydroxyalkanoate polyester copolymer which forms a water

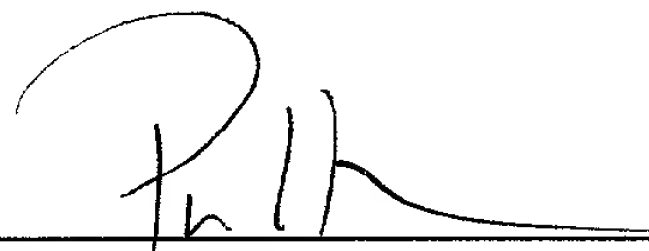
resistant film at ambient temperature, where the particles of the polymer have a density less than 102% of the D_{\min} for the polymer. Support for claims 1 and 19, as amended, can be found at page 7, line 34 to page 8, line 1 (film-forming at ambient temperature) and page 10, Table 1, line 29 (demonstrating the film's water resistance). Further support for the method for coating materials with polyhydroxyalkanoate compositions which form films at ambient temperatures appears at least in page 9 of the specification which recites that these coatings are "suitable to application to non-fibrous surfaces at ambient temperatures." (p. 9, lines 15-16).

Support for claims 11 and 20 can be found at page 10, lines 2-6 and Table 1. Support for claims 12 and 21 can be found at page 7, lines 8-11. Support for claims 13, 14 and 25 can be found at page 7, lines 25-36 and claim 6, as originally filed. Support for claims 15 and 22 can be found at page 8, lines 2-6. Support for claims 16 and 23 can be found at page 8, lines 9-14. Support for claims 17 and 22 can be found at page 8, lines 14-21. Support for claim 18 can be found in claim 1, as originally filed. Support for claim 26 can be found in claims 3 and 8, as originally filed.

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Allowance of all claims 1 and 11-26 is earnestly solicited.

Respectfully submitted,



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APPENDIX

Claims As Pending Upon Entry of Preliminary Amendment

1. (Amended) An aqueous, film-forming coating composition comprising a polyhydroxyalkanoate polyester, wherein the composition forms a water-resistant film at ambient temperatures and at least 60% of the polyester particles have a density of less than $102\% D_{\min}$, D_{\min} being the lowest density attainable by the polyester.

11. The composition of claim 1 wherein the polyhydroxyalkanoate polyester forms particles which fuse at ambient temperatures.

12. The composition of claim 1 wherein the polyhydroxyalkanoate polyester comprises a copolymer of between 60 and 100 mole% 3-hydroxybutyrate and between 0 and 40 mole% 3-hydroxyvalerate.

13. The composition of claim 1 further comprising other film-forming polymers.

14. The composition of claim 13 wherein the film-forming polymers are obtained from monomers obtained from petroleum or vegetable oil feedstocks and which are present in an amount of up to 95 wt% of the combined weights of the film-forming polymer and the hydroxyalkanoate polyester.

15. The composition of claim 1 wherein the polyhydroxyalkanoate polyesters comprise monomers with high minimum film-forming temperatures and monomers with low minimum film-forming temperatures.

16. The composition of claim 15 wherein the high film-forming temperature monomers

are selected from the group consisting of carboxylic acids, non-acidic monomers, fumaric anhydrides, and maleic anhydrides.

17. The composition of claim 15 wherein the low film-forming temperature monomers are selected from the group consisting of ethyl acrylate, 2-ethyl acrylate, methyl acrylate, butyl acrylate, and vinyl esters of branched chain acids.

18. The composition of claim 1 further comprising a pigment.

19. A method of coating a structure comprising applying an aqueous film-forming coating composition comprising a polyhydroxyalkanoate polyester, wherein the composition forms a water-resistant film at ambient temperatures and at least 60% of the polyester particles have a density of less than 102% D_{\min} , D_{\min} being the lowest density attainable by the polyester.

20. The method of claim 19 wherein the polyhydroxyalkanoate polyester forms particles which fuse at ambient temperatures.

21. The method of claim 19 wherein the polyhydroxyalkanoate polyester comprises a copolymer of between 60 and 100 mole% 3-hydroxybutyrate and between 0 and 40 mole% 3-hydroxyvalerate.

22. The method of claim 19 wherein the polyesters comprise monomers with high minimum film-forming temperatures and monomers with low minimum film-forming temperatures.

23. The method of claim 22 wherein the high film-forming temperature monomers are selected from the group consisting of carboxylic acids, non-acidic monomers, fumaric

anhydrides, and maleic anhydrides.

24. The method of claim 22 wherein the low film-forming temperature monomers are selected from the group consisting of ethyl acrylate, 2-ethyl acrylate, methyl acrylate, butyl acrylate, and vinyl esters of branched chain acids.

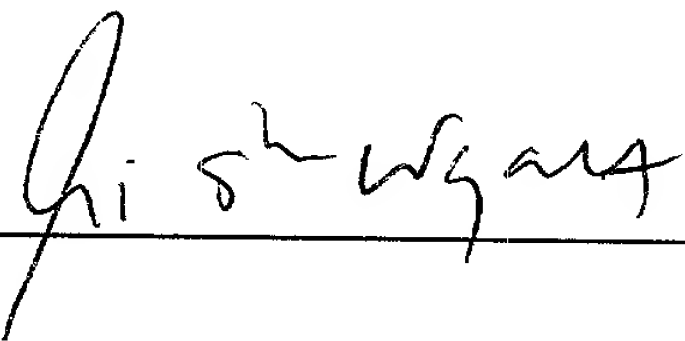
25. The method of claim 19 wherein the composition further comprises film-forming polymers comprising monomers obtained from petroleum or vegetable oil feedstocks and which are present in an amount of up to 95 wt% of the combined weights of the film-forming polymer and the hydroxyalkanoate polyester, and the composition is applied as a paint or varnish.

26. The method of claim 25 wherein the coating is applied to surfaces found on buildings or vehicles, their fittings or furnishings, or on metal or plastics containers.

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CERTIFICATE OF MAILING UNDER 37 C.F.R. § 1.10

I hereby certify that this PRELIMINARY AMENDMENT and any documents referred to as attached therein are being deposited with the United States Postal Service on this date, April 26, 2001, in an envelope as "Express Mail Post Office to Addressee" service under 37 C.F.R. § 1.10, Mailing Label Number EL 709 416 591 US addressed to Box Patent Application, Assistant Commissioner of Patents and Trademarks, Washington, D.C. 20231.



Date: April 26, 2001